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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,902	08/16/2001	Manabu Sawasaki	1324.65754	1632
7590	01/05/2004		EXAMINER	
Patrick G. Burns, Esq. GREER, BURNS & CRAIN, LTD. Suite 2500 300 South Wacker Dr. Chicago, IL 60606			DUONG, TAI V	
			ART UNIT	PAPER NUMBER
			2871	
DATE MAILED: 01/05/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/930,902	SAWASAKI ET AL.	
	Examiner Tai Duong	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 06 October 2003.

2a) This action is **FINAL**.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-28 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) 8 and 24-27 is/are allowed.

6) Claim(s) 1-4,6,7,9,18-20,22,23 and 28 is/are rejected.

7) Claim(s) 5,10-17 and 21 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 06 October 2003 is/are: a) accepted or b) objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) The translation of the foreign language provisional application has been received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

1) Notice of References Cited (PTO-892)      4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_ .

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)      5) Notice of Informal Patent Application (PTO-152)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ .      6) Other: \_\_\_\_\_ .

The proposed drawing correction filed on 10/6/03 has been approved by the examiner.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the specification does not disclose the newly added feature of claim 8 “ a height d1 of the resin spacer and a height d2 of the dummy pattern satisfy the requirement,  $d2 > d1 - d2$  ”.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2- 4, 6 and 7 stand rejected under 35 U.S.C. 102(b) as being anticipated by EP 0 884 626 cited by Applicant.

Note Fig. 131 which identically discloses the claimed substrate comprising a plurality of alignment regulating protrusions having the sectional shapes being different from each other in width (R compared to G or B) or in height (p. 37, lines 16-26) in respective (particular) pixel regions (R, G and B pixel regions).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies

(i.e., the alignment regulating protrusions that have different sectional shapes within a pixel region) are not recited in the rejected claim(s). It is noted that the phrase "in respective pixel regions" is not the same as "within a pixel region".

Claims 9, 18-20, 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Murouchi.

Note Figs. 1 and 3 which identically disclose the claimed substrate and LCD device wherein a height  $d_1(h_1)$  of the resin spacer 4a and a height  $d_2(h_2)$  of the dummy patterns 5a satisfy the requirement,  $d_2 > d_1 - d_2$  and  $d_1 > d_2$ , color filters (3a-c) formed between the insulating substrate 9 and the resin spacers, a light shield film 2a formed between the insulating substrate and the resin spacers and disposed in a region excluding the regions to be opposed to the respective pixel electrodes.

Claim 9 is alternatively rejected under 35 U.S.C. 102(b) as being anticipated by Carrington.

Note Fig. 4 which identically disclose the claimed substrate wherein a height  $d_1$  of the resin spacer 10 and a height  $d_2$  of the dummy patterns 14 satisfy the requirement,  $d_2 > d_1 - d_2$  and  $d_1 > d_2$  (col. 4, lines 50-61).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murouchi.

The only difference Murouchi's substrate and that of the instant claim is a value of d1-d2 being approximately 1  $\mu\text{m}$ , as compared to 0.5  $\mu\text{m}$ . As apparent to those of ordinary skill in the art, the difference between that disclosed by Murouchi and that of the instant claims is small or close. However, it has been held that a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Thus, it would have been obvious to a person of ordinary skill in the art to employ in Murouchi's substrate a value of d1-d2 being approximately 1  $\mu\text{m}$  for saving the fabrication cost of the substrate without sacrificing the function and properties of the dummy patterns.

Claims 5, 10-17 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 8 and 24-27 are allowed because none of the prior art discloses or suggests a method comprising the steps of forming a plurality of thermoplastic resin layers having different line widths by patterning the thermoplastic resin and forming a plurality of alignment regulating protrusions having different heights simultaneously by heat-treating the thermoplastic resin layers; or a method comprising the steps of

applying a resin material on an insulating substrate and patterning the resin material to form a plurality of resin spacers and a plurality of dummy patterns, and a testing step of checking whether plurality of resin spacers having thickness unevenness by irradiating the dummy patterns with light.

Claims 5, 11, 13-17 and 19-21 would be allowable because none of the prior art discloses or suggests the particular arrangement of the protrusions and the auxiliary protrusions having different sectional shapes, the particular base surfaces of the resin spacers with respect to those of the dummy patterns, and the dummy test patterns having a smaller area than the dummy patterns.

Applicant's arguments filed 10/6/03 with respect to amended claims 1 and 9 have been fully considered but they are not persuasive for the reasons mentioned in the above rejections.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to Tai Duong at telephone number 703 308-4873.

  
TVD

12/03

  
TOANTON  
PRIMARY EXAMINER